

## ZnO UV Detectors, Phase II

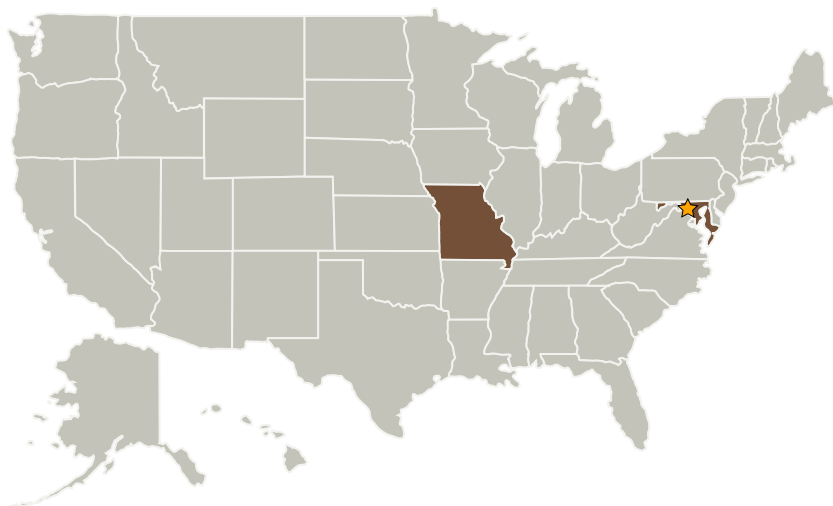
Completed Technology Project (2004 - 2006)



## Project Introduction

High-efficiency UV detectors will be developed in the Phase II program with ZnO and its alloy (ZnBeO). ZnO and ZnBeO are a very suitable material for fabrication of high-speed, high-detectivity, and radiation-hard UV detectors due to their unique structural, electrical and optical properties. The proposing company (MOXtronics) has shown the feasibility of fabricating new ZnO p-i-n UV detectors in the Phase I. Such UV photodiodes will be improved for high-efficiency UV detection by using heterojunction p-i-n structures and/or Schottky contacts. In the Phase II efforts, commercial-typed heterojunction ZnO/ZnBeO-based PIN and MSM photodiodes will be fabricated and demonstrated. These photodiodes will be used for broad near-to-far UV detection.

## Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Goddard Space Flight Center (GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland
MOXtronics, Inc.	Supporting Organization	Industry	Columbia, Missouri



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## Organizational Responsibility

**Responsible Mission Directorate:**

Space Technology Mission Directorate (STMD)

**Lead Center / Facility:**

Goddard Space Flight Center (GSFC)

**Responsible Program:**

Small Business Innovation Research/Small Business Tech Transfer

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### Primary U.S. Work Locations

Maryland

Missouri

### Project Management

**Program Director:**

Jason L Kessler

**Program Manager:**

Carlos Torrez

### Technology Areas

**Primary:**

- TX06 Human Health, Life Support, and Habitation Systems
  - └ TX06.4 Environmental Monitoring, Safety, and Emergency Response
    - └ TX06.4.2 Fire: Detection, Suppression, and Recovery